

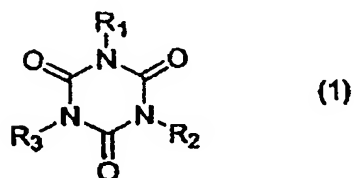
CLAIMS

1 A photocurable resin composition comprising:

(A) 20-85 wt% of a cationically polymerizable component,

5 (B) 0.1-10 wt% of a cationic-polymerization initiator,

(C) 5-45 wt% of a component having a structure shown by the following
formula (1),



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wherein R^1 , R^2 , and R^3 individually represent organic groups, provided that at
least two of R^1 , R^2 , and R^3 have a polymerizable carbon-carbon double bond,

(D) 0.1-10 wt% of a radical-polymerization initiator, and

(E) 0-20 wt% of a component having at least one radically polymerizable
group in the molecule.

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2 The composition according to claim 1, wherein component A is selected from
the group consisting of 3,4-epoxycyclohexylmethyl-3',4'-

epoxycyclohexanecarboxylate, bis(3,4-epoxycyclohexylmethyl)adipate, ϵ -
caprolactone-modified 3,4-epoxycyclohexylmethyl-3',4'-

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epoxycyclohexanecarboxylate, trimethylcaprolactone-modified 3,4-
epoxycyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate, β -methyl- δ -
valerolactone-modified 3,4-epoxycyclohexylmethyl-3',4'-

epoxycyclohexanecarboxylate, bisphenol A diglycidyl ether, bisphenol F
diglycidyl ether, hydrogenated bisphenol A diglycidyl ether, hydrogenated

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bisphenol F diglycidyl ether, 1,4-butanediol diglycidyl ether, 1,6-hexanediol

diglycidyl ether, trimethylolpropane triglycidyl ether, glycerol triglycidyl ether, polyethylene glycol diglycidyl ether and polypropylene glycol diglycidyl ether.

3 The composition according to claim 1 or 2, wherein the component (C) contains a spacer molecule between the carbon-carbon double bond and the
5 isocyanurate cyclic structure.

4 The composition according to claim 3, wherein the spacer molecule is an aliphatic chain by modifying the isocyanurate cyclic structure with ethylene oxide, propylene oxide, or ϵ -caprolactone.

5 The composition according to anyone of claims 1 to 4, wherein component (C)
10 is selected from the group consisting of
bis((meth)(acryloxymethyl)hydroxymethyl isocyanurate,
bis((meth)acryloxyethyl)hydroxyethyl isocyanurate,
tris((meth)acryloxymethyl)isocyanurate, tris((meth)acryloxyethyl)isocyanurate
and caprolactone-modified tris((meth)acryloxyethyl)isocyanurate.

15 6 The composition according to anyone of claims 1 to 5, wherein the component (C) is used in an amount of 10-35 wt%.

7 The composition according to anyone of claims 1 to 6, wherein a polyfunctional acrylate is present selected from the group consisting of
20 trimethylolpropane tri(meth)acrylate, EO-modified trimethylolpropane tri(meth)acrylate, dipentaerythritol hexa(meth)acrylate, dipentaerythritol penta(meth)acrylate, and ditrimethylolpropane tetra(meth)acrylate.

8 The composition according to anyone of claims 1 to 7, wherein composition comprises (F) elastomer particles with an average particle diameter of 10-1000 nm.

25 9 A process for forming a three-dimensional article comprising:
(1) coating a layer of a composition onto a surface, wherein the composition is used as defined in anyone of claims 1-8;

- (2) exposing the layer imagewise to actinic radiation to form an imaged cross-section, wherein the radiation is of sufficient intensity to cause substantial curing of the layer in the exposed areas;
 - (3) coating a layer of the composition onto the previously exposed imaged cross-section;
 - (4) exposing said thin layer from step (3) imagewise to actinic radiation to form an additional imaged cross-section, wherein the radiation is of sufficient intensity to cause substantial curing of the thin layer in the exposed areas and to cause adhesion to the previously exposed imaged cross-section;
 - (5) repeating steps (3) and (4) a sufficient number of times in order to build up the three-dimensional article.
- 10 Use of a composition as defined in anyone of claims 1-8, for making three dimensional objects.
- 15 11 A three dimensional object made from a composition as defined in anyone of claims 1-8 by curing the composition.